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Patented Apr. 29, 1902.

E. ODELL & R. HÜBNER.
HORSESHOE.

(Application filed Jan. 30, 1902.)

(No Model.)

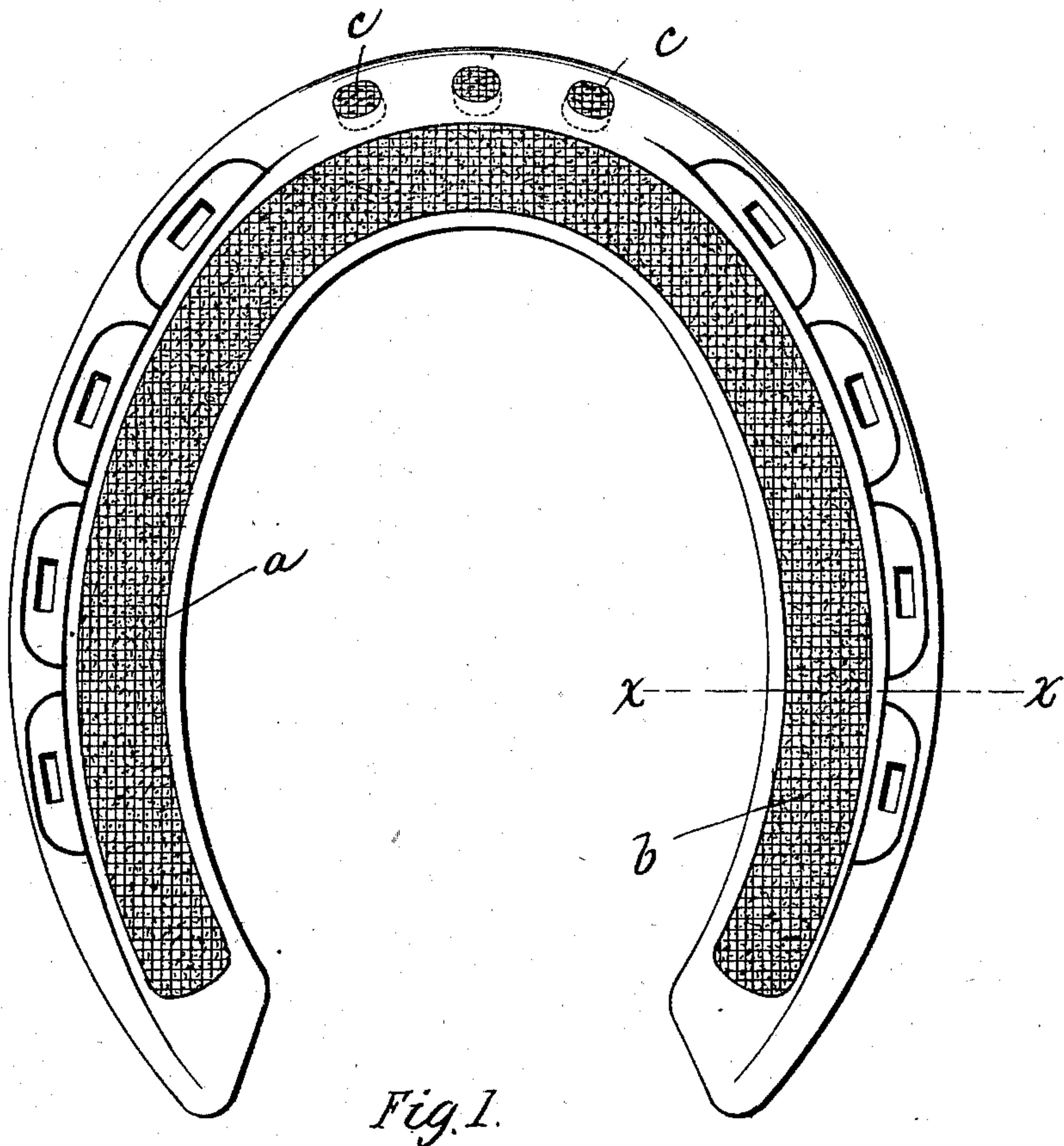


Fig. 1.

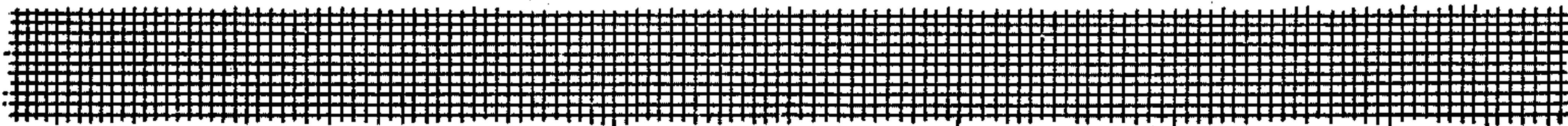
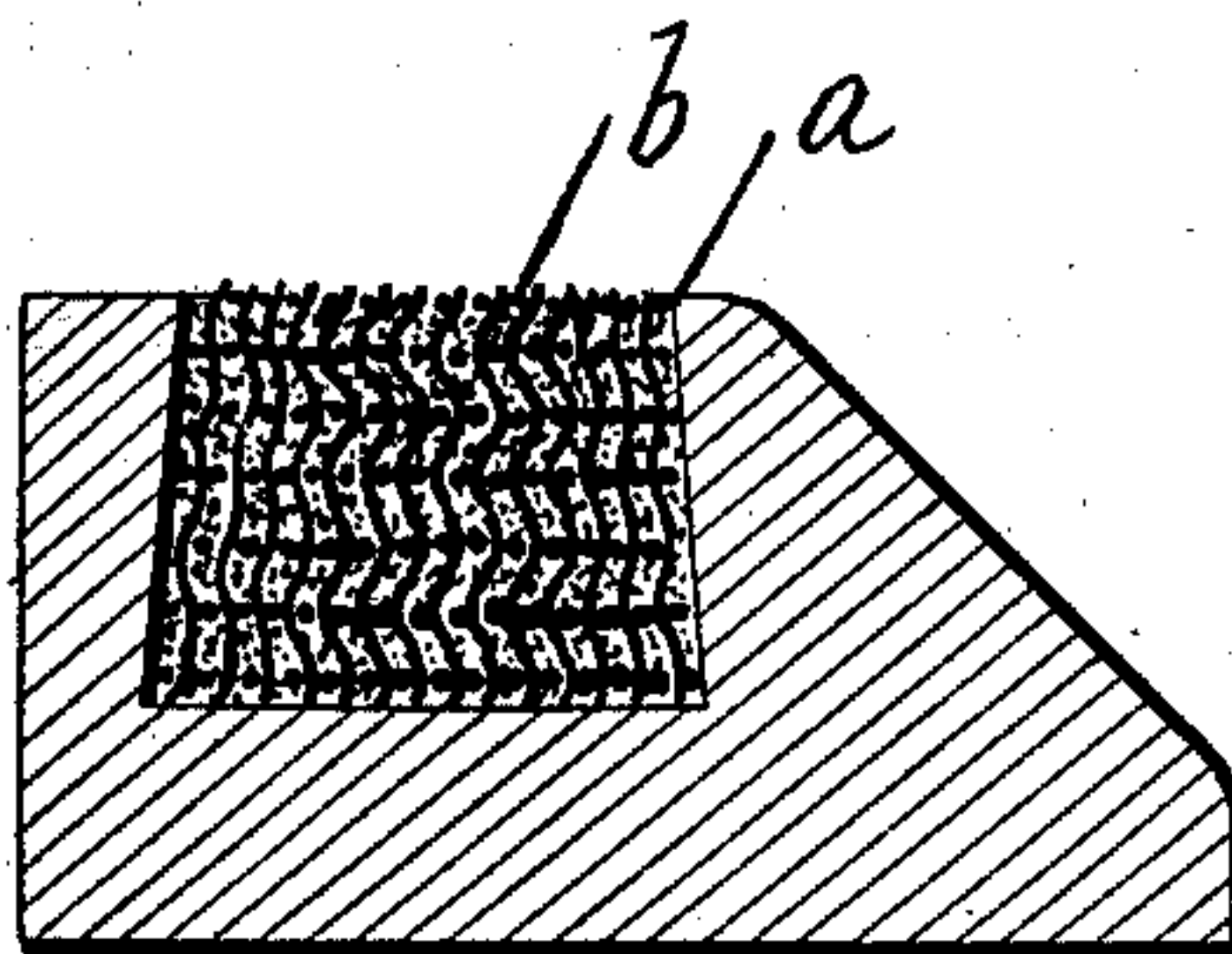


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 698,545, dated April 29, 1902.

Application filed January 30, 1902. Serial No. 91,829. (No model.)

To all whom it may concern:

Be it known that we, EDGAR ODELL, a citizen of the United States, and ROBERT HÜBNER, a subject of the Emperor of Germany, both residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Horseshoes, of which the following is a full, clear, and exact description.

This invention relates to non-slipping horseshoes, the object being to provide a construction which will give the animal a good hold upon a roadway which may be slippery either from moisture, oil, ice, or other cause and at the same time provide for cushioning the stroke of the animal's hoof upon hard and unyielding surfaces.

It has also been our object to furnish a cushion or pad for the shoe which will always present a wearing-surface of the same nature, so that regardless of the extent to which the pad may be worn down its surface will still possess the qualities which prevent the animal from slipping and afford a comfortable shoe.

In carrying out this invention we provide the shoe with one or more pads or cushions set into a cavity or cavities in the shoe, said pad being composed in general of material refractory to wear, such as steel, in a more or less divided form, elastic material, such as rubber, and a friction-creating material, such as emery, sand, or finely-divided vitreous material. These features will be more fully described hereinafter.

The accompanying drawings illustrate a horseshoe and its improved pad in several figures, as follows:

Figure 1 is a plan of the horseshoe, showing an approved form and location of the non-slipping pads. Fig. 2 represents one strip of metallic gauze, a number of which are used in building up the pad; and Fig. 3 is a section on line *x x* of Fig. 1.

The horseshoe may be of any form or style. As here shown, it contains a continuous deep groove *a*, extending around its face from end to end and adapted to contain the pad forming the main feature of our invention. This pad consists, preferably, of a number of strips of metallic gauze placed flat against each other face to face to form a bunch or bundle of

crossed metallic wires provided throughout with cavities, pores, or cells. Before assembling the strips of gauze into a bunch each individual strip is given a coating of a mixture of soft rubber and emery-powder or some similar material, such as sharp sand, powdered glass, &c. This mass is pressed into the meshes of the metallic strips, so as to become intimately connected and associated therewith throughout its entire surface. The strips are then assembled face to face into a solid bunch of the proper size to fit into the groove *a* in the face of the shoe. The lips or edges of this groove are then set over, forming substantially a dovetailed groove, as shown in Fig. 3, which effectually confines the pad in place. Steel mesh is preferable to any other on account of its hardness; but our invention is not limited to steel, as we might use iron, brass, or any preferred tough metal or alloy, or, in fact, any non-metallic material refractory to wear. We, however, require for the best results that the mesh be so constructed that the wires traversing it in one direction shall be substantially at right angles to the plane of the shoe, so that a multitude of the ends or points of such wires will be presented on the working face of the pad as long as any of the pad remains; but we do not limit ourselves to this form, since the pad could be made up in cylindrical or rope form. For the same reason the elastic and vitreous compound permeates the entire structure of the pad and performs its function as long as any of the pad remains. The metallic points always presented in the surface of the pad prevent slipping and extend the life of the pad, since they are refractory to wear. The emery or vitreous material, also always present at the surface of the pad, performs the same function as sand thrown upon a slippery roadway—it creates friction between the shoe and the road and prevents slipping. The rubber furnishes a vehicle for the vitreous material and at the same time imparts a certain amount of elasticity to the pad, which renders the shoe comfortable. Our invention is not confined to the use of rubber, since cement or compositions of various kinds can be used with a good degree of success for the same purpose.

The groove *a* in the shoe may be divided up

into a number of grooves and a corresponding number of smaller pads inserted therein. At the toe of the shoe we have shown several small pads in the form of plugs *c*, formed
5 of the same material, to give the animal a good hold at the point of the shoe.

Having described our invention, we claim—

1. A horseshoe provided with a pad made up of a number of layers, each layer consisting of a sheet of wire mesh having its open
10 spaces filled with an elastic compound containing finely-divided abrasive material.

2. A horseshoe provided with a pad made up of a number of layers, each layer consist-

ing of a sheet of wire mesh having its open 15 spaces filled with an elastic compound containing finely-divided abrasive material, some of the wires of the mesh being arranged perpendicularly to the wearing-surface of the pad.

In witness whereof we subscribe our signatures in presence of two witnesses. 20

EDGAR ODELL.
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Witnesses:

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